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| APPLICATION NO.     | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO.         | CONFIRMATION NO. |
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| 10/787,432          | 02/26/2004  | Harry Schilling      | 5858-01900 SR 2000/20<br>US | 4755             |
| 35617               | 7590        | 01/23/2008           | EXAMINER                    |                  |
| DAFFER MCDANIEL LLP |             |                      | CORRIELUS, JEAN B           |                  |
| P.O. BOX 684908     |             |                      | ART UNIT                    | PAPER NUMBER     |
| AUSTIN, TX 78768    |             |                      | 2611                        |                  |
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/787,432

Applicant(s)

SCHILLING ET AL.

Examiner

Jean B. Corrielus

Art Unit

2611

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 December 2007 and 1/16/08.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,2 and 5-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2 and 5-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/5/07 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 12/5/07.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/5/07 has been entered.

2. The information disclosure statement filed 12/5/07 has been considered.

### ***Drawings***

3. Applicant's response has overcome the objection to the drawing.

### ***Claim Objections***

4. Claims 10, 11 and 13 are objected to because of the following informalities: in view of the applicant comment with respect to the drawing objection of claim 10, lines 5-6, "data receiver" should be replaced by "second unit" since the "data receiver" as shown in the drawing is not associated with the "control means".

claim 13 the claim language suggests that the limitations "inserting true random data ... in substantially all intervals between the first signals" are independent from the step of encoding the digital signal by combining the first signals with the pseudo random

values..” while in fact according to the original disclosure the step of inserting is part of the encoding step. In addition, the claim language suggests that the forming step, the inserting step and the encoding step are independently provided while in fact the forming step is a further limitation related to the inserting step and the inserting step itself is a further limitation of the encoding step.

Claim 11 is objected to because of its dependency to claim 10.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

5. Applicant's response has overcome the 112 second paragraph rejection of claim 10.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 6, 12 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang US patent no. 7,072,289.

As per claim 1, Yang discloses a system fig. 8 and fig. 9 comprising first unit fig. 8 and a second unit fig. 9, wherein the first unit fig. 8 is configured to transmit digital signals to

Art Unit: 2611

the second unit fig. 9, the first unit fig. 8 comprising: a DFT 81 (data transmitter) for emitting first digital signals within first time intervals see fig. 5B; a pseudo random-generator 83 for generating pseudo random values , respectively see fig. 5A; , a MUX 85 (combining unit) for combining the first digital signals fig. 5B with the pseudo random values fig. 5A at substantially the entirety of intervals in which the first digital signals are absent see fig. 2A; note that the MUX 85 inherently includes a control circuit for generating a control signal to combine signals of fig. 5A and fig. 5B into a combined signal 2A where pseudo random values are transmitted at times other than when the digital signals are present; and the second unit comprising a data receiver connected to the data transmitter by a transmission path see figs. 8 and 9.

As per claim 6, Yang et al shows at the second unit a PN processor 95 for generating "control" signal to be provided to the remover 97. Note that the control signal has to be a PN sequence because in order for the removing circuit to remove the PN code from the receive spread spectrum signal, it has to be provided with the same copy of the PN code used in the transmitter.

As per claim 12, see claim 1. In addition, as shown in fig. 2A the spectrum of the signal to be transmitted, gap between the spectral lines are reduced, so that amplitudes of the spectral lines are decreased however without substantially increasing the entire bandwidth needed for transmission see figs. 5A, 5B and 2A.

As per claim 13, see claim 1.

***Claim Rejections - 35 USC § 103***

Art Unit: 2611

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al US Patent No. 7,072,289.

As per claim 2, as applied to claim 1 above, Yang teaches every feature of the claimed invention but do not explicitly teach a signaling line is provided between the data transmitter and the data receiver to signal the presence of data to the receiver. However, it is well known in the art to notify a receiving entity that signal is being transmitted using a control signal line. Given that fact, it would have been obvious to one skill in the art to incorporate a control line in Yang to transmit a control signal from a transmitting unit to a receiving unit to indicate that the data is being transmitted to the receiving unit in so as to provide the receiving unit with the proper timing as to when to commence signal processing in order to retrieve original signal.

10. Claims 5, 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al US Patent No. 7,072,289 in view of Jewett US Patent No. 5,793,318.

As per claim 5, as applied to claim 1 above Yang teaches every feature of the claimed invention but does not teach the further limitation of providing an additional transmission path for transmitting the pseudo random values or random values is provided, so that at the second unit a combination with the pseudo random values or

Art Unit: 2611

random values takes place synchronously with a combining with the pseudo random values or random values at the first unit. Jewett teaches an additional transmission path 34 is provided to transmit the pseudo random values so that a combination with the pseudorandom values takes place synchronously with a combining with the pseudo random values at the first unit. Given that fact, it would have been obvious to one skill in the art to incorporate such a teaching in yang so as to enhance signal processing at the second unit so that accurate reconstruction of the original signal can be carried out.

As per claim 7, as applied to claim 6 above, Yang teaches every feature of the claimed invention but does not explicitly teach the additional limitation of providing additional transmission path is provided for synchronizing the pseudo random generator or random generator of the first unit and the pseudo random generator or random generator of the second unit. Jewett further teaches an additional transmission path for synchronizing PN generator 44 and PN generator 62 see fig. 3. Given that fact, it would have been obvious tone skill in the art to incorporate such a teaching in Yang and the reason to do so would have been the same as provided above with respect to claim 5.

As per claim 8, as applied to claim 6 above, Yang teaches every feature of the claimed invention but does not explicitly teach the additional limitation recited in claim 8. Jewett teaches a unit 42 to synchronize both PN generators of the first and second units see fig. 3. Given that fact, it would have been obvious tone skill in the art to incorporate such a teaching in Yang and the reason to do so would have been the same as provided above with respect to claim 5.

As per claim 9, see claim 8. The combined references do not teach a sync sequence is used at the beginning of each signal transmission instead of the pn-sequence. Note however that it is well known that prior to transmitting data from one station to another station, signal synchronization is first established between the stations communicating. Given that fact, it would have been obvious to one skill in the art to send a sync sequence prior to signal transmission so as to synchronize the pseudo random generators so as to allow both units to be able to communicate, allow the receiver to be able to decode the signal transmitted by the transmitter.

11. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al US Patent No. 7,072,289 in view of Jewett US Patent No. 5,793,318 and further in view of Ooi et al US patent No. 5,007,088.

As applied to claim 10 above, Yang and Jewett disclose every feature of the claimed invention but do not explicitly teach the additional limitations wherein for the synchronization sequence, the data transmitter is adapted to emit a previously established bit pattern which is then combined with pseudo random values of the pseudo random generator of the first unit by the combining unit connected on an output side of the pseudo random generator; and a control unit of the data receiver is adapted to perform at various times a synchronization of the pseudo random generator of the second unit with the received data until a known given transmission pattern occurs as a result of the combination. Ooi et al teaches limitations wherein for the synchronization sequence, the data transmitter fig. 1 is adapted to emit a previously established bit

pattern (unique word, see output of circuit 5) which is then combined with pseudo random values of the pseudo random generator 9 using gate 10 of the first unit fig. 1 by the combining unit 10 connected on an output side of the pseudo random generator 9; and a control unit 22 of the data receiver is adapted to perform at various times a synchronization of the pseudo random generator 25 of the second unit fig. 3 with the received data until a known given transmission pattern (unique word) occurs as a result of the combination. It would have been obvious to one skill in the art to incorporate such a teaching in Yang and Jewett in order to allow valid scrambling/descrambling of data to occur immediately following the establishment of frame synchronization to prevent a substantial amount of data loss as taught by Ooi see col. 1, lines 34-38.

12. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yang et al US Patent No. 7,072,289 in view of Jewett US Patent No. 5,793,318 and further in view of Ooi et al US patent No. 5,007,088 and further in view of Van der Gracht et al US patent No. 4,835,517.

As applied to claim 10 above, Yang, Jewett, and Ooi teach the invention as claimed but do not teach the limitations of "wherein for simplified synchronization between the data transmitter and the data receiver, a short pseudo random sequence is used at first, and after a given period of time, or after a synchronization with this random sequence, a switch-over is made to a longer pseudo random sequence". However, as evidence by Van Der Gracht et al, it is well know in the art to use a first short code sequence and a second long code sequence see col. 1, lines 62-66. Given that fact, it

would have been obvious to one skill in the art to incorporate such a teaching in Yang, Jewett, and Ooi in order to acquire and maintain code synchronization between the receiver and transmitter so as to reduce error rate.

***Response to Arguments***


13. Applicant's arguments, see page 11, lines 23-26, filed 12/5/07, and similar comment made in the supplemental response, filed 1/16/08, with respect to rejections of claims 1-2, 5-13 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Yang et al above.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jean B. Corrielus whose telephone number is 571-272-3020. The examiner can normally be reached on Monday-Thursday from 9:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chieh Fan can be reached on 571-272-3042. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2611

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Jean B Cornelius  
Primary Examiner  
Art Unit 2611

1-18-08